Examining Strategies for Cluster-Based Economic Development in Rural Iowa

Executive Summary

Examining Strategies for Cluster-Based Economic Development *in Iowa* illustrates that industry clusters have become a point of emphasis for many elected officials, economic development policy makers and economic development professionals at the regional and national levels, not only in the United States, but around the world. The State of Iowa and many Iowa communities are focusing their economic development strategies on building industry clusters, particularly advanced manufacturing, information solutions and life sciences. Communities and regions face significant challenges in shifting their economic development strategies to a cluster focus such as identifying industry clusters, understanding the dynamics of clusters and shaping cluster-based strategies that strengthen their existing economic base and industries while building or attracting new industry clusters.

A review of the academic journals and professional economic development literature reveals a variety of definitions of industry clusters that are cast either from theoretical and analytical perspectives (to understand and explain clusters) or from a policy perspective (to explain how industry clusters can be utilized to promote economic growth). These definitions often highlight the regional interaction between firms, geographic proximity, buyer-supplier relationships, commonality of labor markets, technologies and support services.

Economic efficiencies and cost factors are the ultimate driving force behind why industries cluster and individual firms decide on a specific location. A firm locates in a cluster because it wants to benefit from agglomeration economies, which can either be localization economies that are industry specific (such as the access to production inputs and markets, the reduction of search costs for skilled labor or the reduction of transaction costs between firms in the industry) or urbanization economies that are non-industry specific (which can include access to specialized services such as testing firms, finance and venture capital firms, accounting firms or advertising and marketing firms, as well as the reduction of search costs for unskilled labor or the spread of knowledge and innovation across industries).

Researchers have used a variety of qualitative and quantitative measures and techniques for identifying the make-up and geography of industry clusters. Quantitative measures include industry employment, the number of establishments, inter-industry and intra-industry sales data and proximity of suppliers. Qualitative measures include the intensity and patterns of communication and

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knowledge spillover between firms and workers within and across industries, workforce skills, the availability of capital, access to specialized services, the intensity of firm competition, social infrastructure and entrepreneurial activity. Obtaining useable data or information, either "hard" or "soft", is expensive and time consuming. Quantitative techniques include the calculation of location quotients to measure the presence of clusters and input-output models which depict the purchasing patterns between businesses. Firm surveys, interviews and focus groups are all examples of qualitative approaches used by researchers to identify clusters.

It is from an input-output model approach that ***Examining Strategies for Cluster-Based Economic Development*** examines industry clusters in Iowa. A national industry cluster template framework developed by researchers at the University of North Carolina and the University of Austria is utilized to identify Iowa's benchmark value-chain clusters, benchmark technology clusters and benchmark labor clusters. The value-chain clusters are groups of industries in similar product chains, such as final market producers and their suppliers, or for non-manufacturing industries, groups of industries that utilize similar labor pools, such as banking and advertising. The largest value-chain clusters in Iowa 2000 were the metalworking and industrial machinery industry cluster, the hospitals, lab, and specialized medical services industry cluster and the printing and publishing industry cluster.

The benchmark technology clusters are groups of technology-intensive industries that utilize similar product chains and labor pools. Iowa's largest technology clusters in 2000 were the information technology and instruments technology cluster, the motor vehicle manufacturing technology cluster and the communications services and software technology cluster. The benchmark labor clusters are groups of industries which have similar labor skill demands. The health services labor cluster, the low skill, non-durable manufacturing labor cluster and the information processing labor cluster were Iowa's largest labor clusters in 2000.

Examining Strategies for Cluster-Based Economic Development examines a variety of strategies for cluster-based economic development. Cluster-based economic development should begin with the quantitative and qualitative research to identify and assess a region's industry clusters. Collaboration is critical in cluster-based economic development and should involve private sector leadership and the active involvement of government institutions and other organizations that can

support and enhance industry clusters. Strategies and support programs for industry clusters and individual firms must be designed to identify and address the various needs and issues of clusters and firms that impede cluster growth. Cluster-based strategies include cluster-focused existing industry programs, efforts that foster innovation and research, efforts that foster entrepreneurship, and programs that enhance workforce development and education and training programs that meet current and future labor demands.

The geography of industry clusters are dictated by economics rather than political boundaries. Therefore, cluster-based economic development requires economic development organizations to communicate and cooperate regionally. Joint efforts could include an existing industry call program, workforce development training or regional marketing to targeted industries that would strengthen a region's existing clusters. Working regionally presents challenges such as competition among communities and limited funding for both local and regional economic development efforts.

Examining Strategies for Cluster-Based Economic Development concludes by outlining factors for economic development officials and policymakers to contemplate as they consider cluster-based economic development strategies. The factors for consideration encompass the following themes:

- Cluster strategies require strong private sector participation and leadership
- Flexibility is key to meeting cluster needs
- Be aware of cluster life cycles
- Assist communities in identifying and understanding clusters
- Comprehensive existing industry programming is critical
- A "critical mass" of industries is limited, therefore labor clusters are critical
- Cluster-based development requires patience and a holistic approach
- Build the capacity and knowledge of economic developer and government officials
- Contingency and succession planning is important for weathering cluster change
- Research the competition and benchmark progress